





Presentation 1: The Public Health Community Platform & Electronic Case Reporting

Presenter: Marcus Rennick

Presentation 2:

APHL Informatics Messaging Services (AIMS)

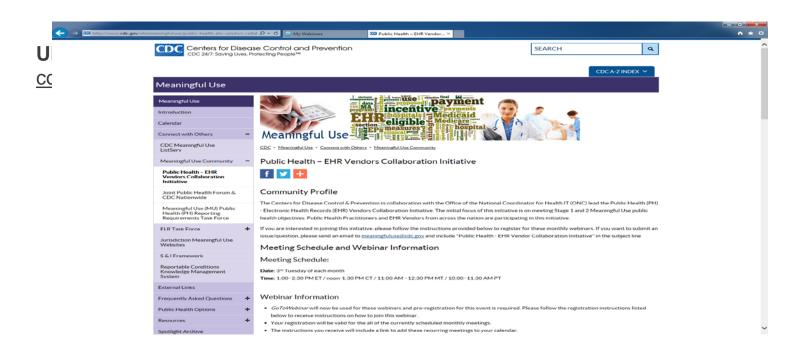
Presenter: Eduardo Gonzalez Loumiet

Public Health - EHR Vendors Collaboration Initiative July 19, 2016



Public Health – EHR Vendors Collaboration Initiative

URL: http://wwwdev.cdc.gov/ehrmeaningfuluse/public-healthehr-vendors-collaboration-initiative.html



Question and Answer Session How to submit or ask questions for the panel members?



Submit or Ask Questions

Submit your text question and comments using the Question Panel

Please raise your hand to be unmuted for verbal questions.

The Public Health Community Platform & Electronic Case Reporting

Marcus Rennick mrennick@astho.org



Public Health Community Platform

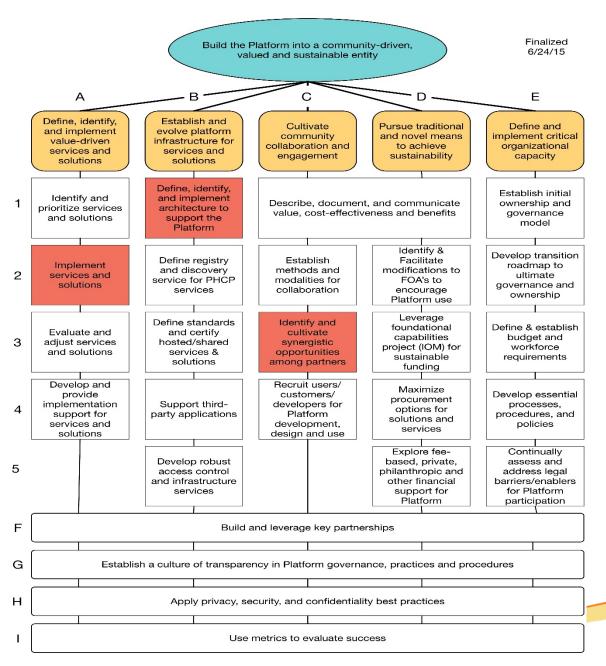
Vision

Universal access to modernized shared resources that efficiently, securely, and collaboratively transform data into action for a healthier nation.

Mission

Provide an accessible, flexible, and secure public health information technology platform of interoperable shared solutions governed by and responsive to the public health community that enables user-driven development, implementation, collaboration, and effective use of resources to address public health priorities.







Glossary and Actors

ASTHO= Association of State and Territorial Health Officials

PHCP= Public Health Community Platform

APHL= Association of Public Health Laboratories

AIMS= APHL Informatics Messaging Service

CSTE= Council of State and Territorial Epidemiologist

RCKMS= Reportable Condition Knowledge Management System (Public Health Decision Support)

eCR= electronic case reporting of reportable conditions

elCR= HL7 CDA document

RCTC= Reportable Conditions Trigger Codes



eCR Components

- Standardized initial report for all jurisdictions and all reportable conditions
- National Trigger Set for all jurisdictions and all reportable conditions to initiate the case report generation
- ■Public Health Decision Support to evaluate the initial report against *jurisdiction specific* and *condition specific* rules
- Standard Transport Mechanisms



Value Proposition

Data Senders (Providers and Facilities)	Data Receivers (Public Health Agencies)
 compliance with public health reporting laws transparency of patient data provisioning awareness of potential public health follow-up standardization of initial reporting data elements 	 disease reporting timeliness and completeness public health intervention and prevention activity focus on epidemiologic data (risk factors, exposure) ability to share case information interjurisdictionally capacity to leverage shared tools and solutions community-driven platform development
 person-resources for reporting "one-off" public health reporting tracking process interruptions by public health investigators training time of medical record and office staff 	 technical solutions for data reporting process person-resources for data collection redundancy in system development projects



eCR Component Status

workflow on AIMS

[http://www.cste.org/group/RCKMS]

ech component status						
Current State	Next Step					
eICR HL7 Standard: • Draft eICR Standard Published (STU) [http://www.hl7.org/dstUcomments/showdetail. cfm?dstuid=188] • Sample eICR documents for select conditions [http://www.thephcp.org/committees/case-reporting]	 eICR HL7 Standard: Notice of Reportability Implementation Guide Update version of CCDA to address "future plans" comments FHIR Implementation Guide for eICR 					
 Reportable Conditions Trigger Codes: Universal code set for all reportable conditions in all jurisdictions (lab order, result, diagnosis) Pertussis, salmonellosis, gonorrhea, chlamydia, Zika Published in PHIN VADS in May 2016 [https://phinvads.cdc.gov/vads/SearchVocab.action] 	 Reportable Conditions Trigger Codes: Explore implementation with EHR vendors CSTE continue identify / vet codes Certification guidance from ONC ~summer 2016 					
 RCKMS: Decision tool with default criteria for 5 base conditions Draft tool being integrated into PHCP eCR 	 RCKMS: Launch reporting requirements authoring interface Pilot decisions support tool with 5 conditions 					

tm

eCR Implementation Options

Triggers - Any reportable condition in any jurisdiction

Deploy PH Decision Support Tool (e.g., RCKMS, ESP) to determine reportability before sending eICR to PH Organization

Use decision support housed on intermediary to confirm reportability:

Option 1: Centralized PH Decision Support tool (RCKMS)

Option 2: External PH decision support/tool (e.g., RCKMS, ESP

@ HIE)

Route eICR to appropriate jurisdiction(s)

Receive eICR directly and confirm reportability

Options to confirm reportability

- Option 1: Run PH decision support tool (e.g., RCKMS, ESP) locally at PH
- Option 2: Manual inspection
- Option 3: Call PH decision support as a centralized web service

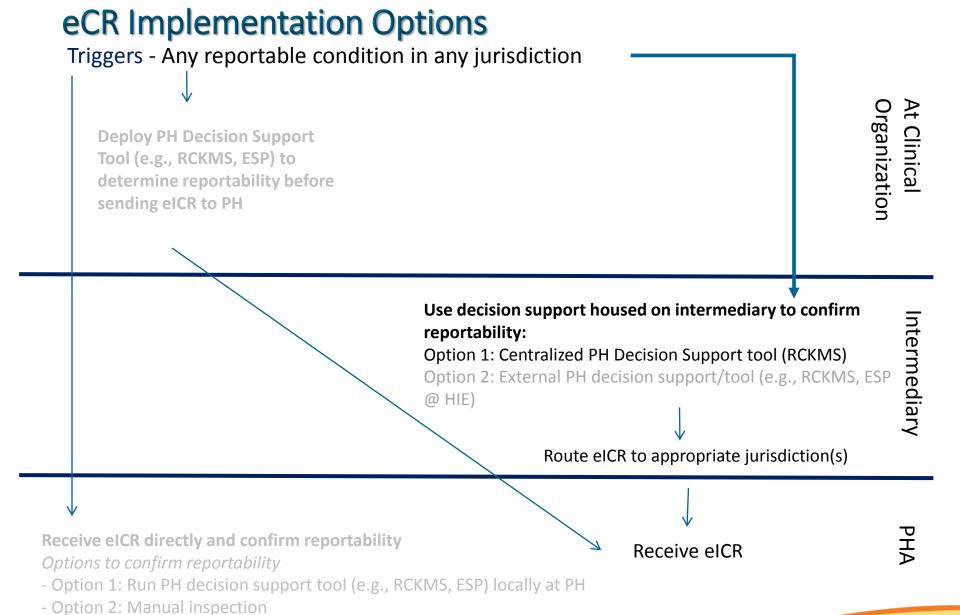
Receive elCR

PHA

Intermediary

From CDC presentation to CSTE ELDRS WG on 4/20/2016



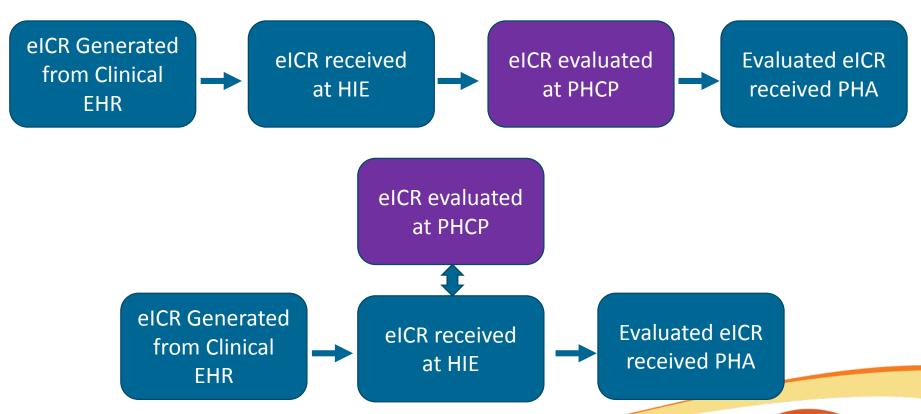


From CDC presentation to CSTE ELDRS WG on 4/20/2016

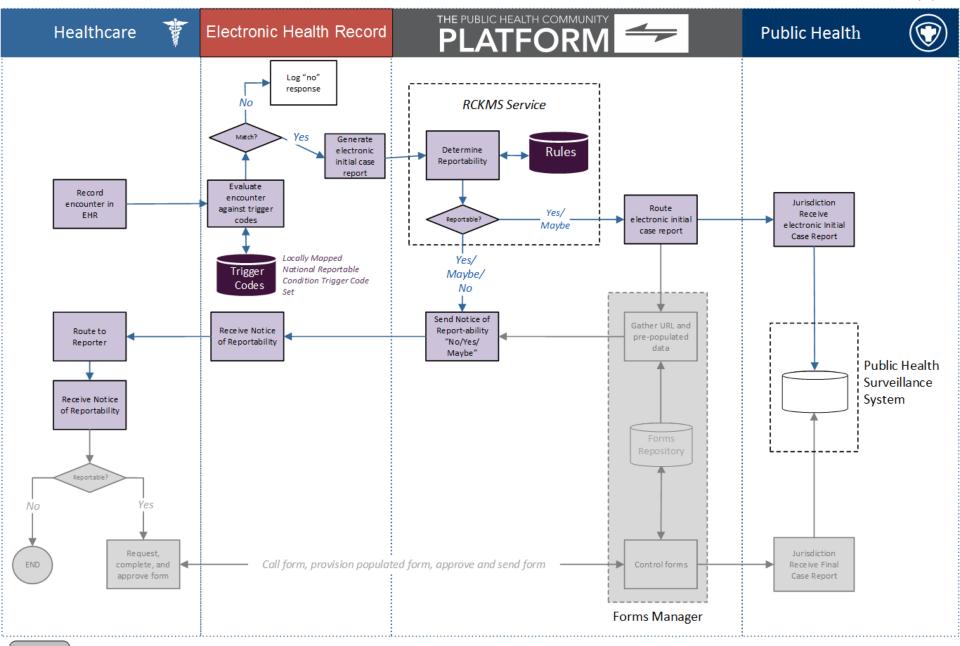
- Option 3: Call PH decision support as a centralized web service











eCR Pilots



eCR Pilot Scope

- ■Define the requirements for system integration between the PHCP, EHR system and the PHA system.
- ■The pilot teams will help to identify the requirements, test the integration points, and validate success.
- Additionally, this project scope will align with the emerging standards in Meaningful Use Stage 3, allowing for vendor certification to MU stage 3 requirements.



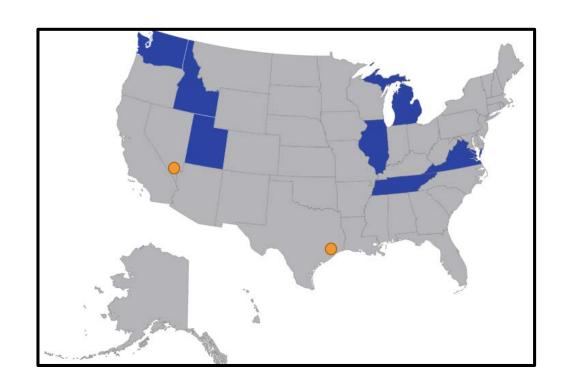
eCR Pilot Objectives

- Define and document the requirements for system connectivity between the PHCP, EHR system and the PHA system.
- Demonstrate the integration of subset of trigger codes into EHR.
- ■Test data transmission with test data from EHR to PHCP and PHCP to PHA.
- Securely transport case reports for selected diseases from production EHR system in a CCDA format to the PHCP/AIMS containing agreed upon data elements and then successful transport the electronic initial case report to the PHA.
- Validate received cases at PHA against normal reporting.



eCR Pilots

- Initial Pilot- Complete
 Framework of
 transporting case report
 from clinical EHR to PHA
 - •Utah DOH/Intermountain Healthcare/Cerner
 - Illinois DPH/Northshore Medical Group/Epic
- Secondary Pilot-Transport and integration of eICR from PHCP to PHA





Next Steps

Continue discussion of topics with EHR implementers on calls over the Summer

Email ehrmeaningfuluse@cdc.gov
to request participation

Implementation Topics in EHRs

- 1. Where in the EHR workflow would codes be looked for?
- 2. Timing of when the EHR looks for a match to the RCTC?
- 3. What defines an encounter, does it differ based on care setting.
- 4. Generation of eICR how many reports will be generated for each condition, one for all conditions?
- 5. Once an eICR is sent for an encounter, what should initiate an updated report?
- 6. More....



Analysis. Answers. Action.

APHL Informatics Messaging Services (AIMS) July 19, 2016

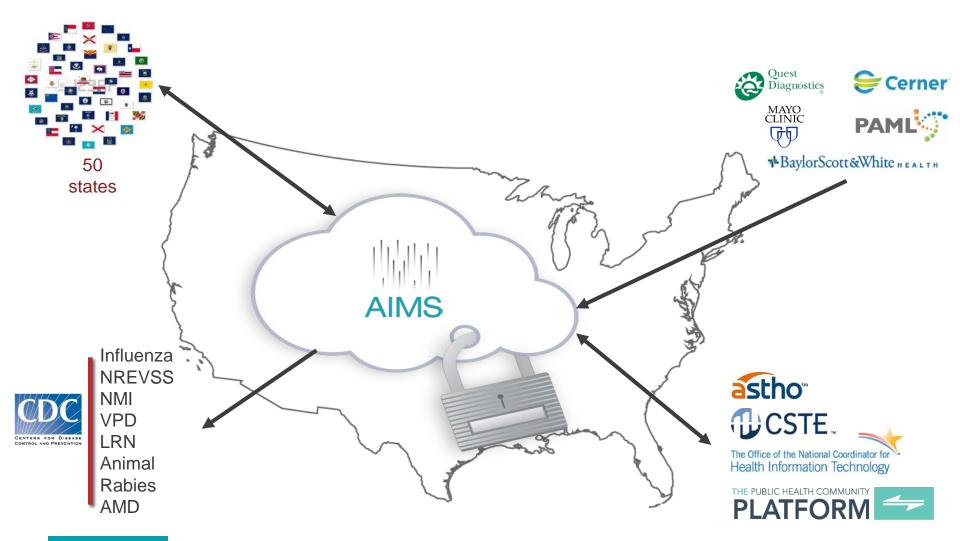




APHL Informatics Messaging Services

A secure, cloud based environment that accelerates the implementation of health messaging by providing shared services to aid in the transport, validation, translation and routing of electronic data.

Today: A National Resource for Interoperability





Priorities

Legal • Continuity • Security • Compliance • Technical Support

Speed and Agility

Elasticity

Low cost of experimentation

Easily deployable solutions



Cybersecurity



Automated continuous configuration and monitoring provides cybersecurity and information assurance capabilities to information technology environments on AIMS.



Compliance

- ✓ HIPAA-compliant, HITRUST-certified environment on the AWS Cloud.
- ✓ FedRAMP and NIST 800-53
- ✓ Business Associate Agreements
- √ Shared Responsibility Model
- ✓ System Security Plan (SSP) in place
- ✓ Security Assessment (ST&E) and Audit conducted in 2013 by RTI International and in 2016 by A-LIGN.
- ✓ FISMA Moderate Compliance ATO granted in 2013
- ✓ FedRAMP certified environment













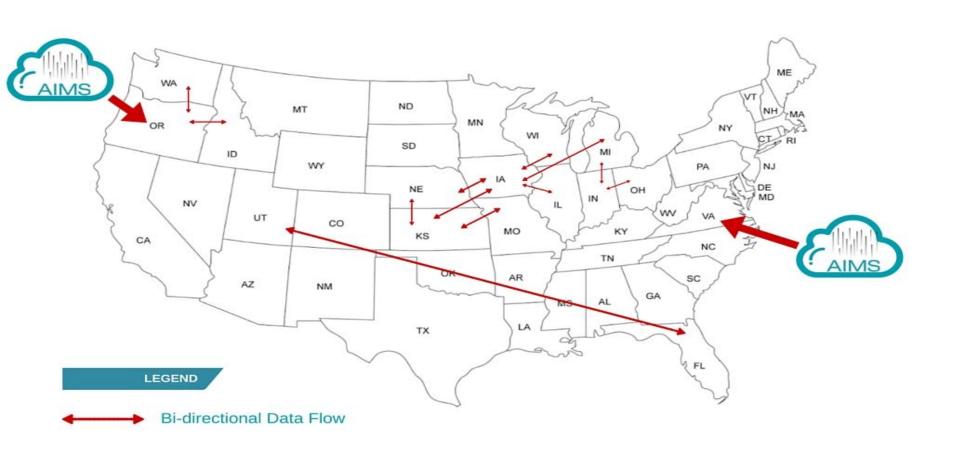






Empowering States:

Cross-Jurisdictional Data Exchange



Organic ELR Data Exchange

Private Sector Adoption

















10 States receiving ELR via AIMS



Traction

>3.5M >5M

80

Messages and Counting

Securely Monitored Log files

AIMS Trading Partners







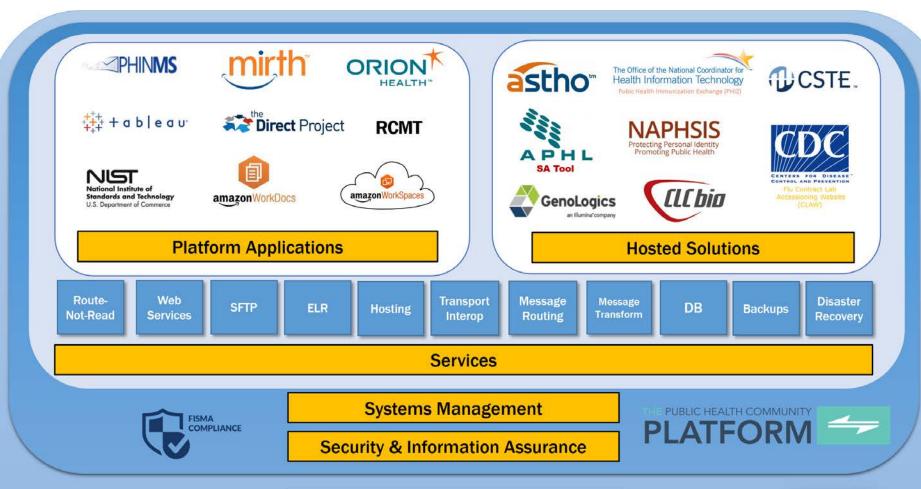


AIMSPlatform.com





AIMS Functional Architecture













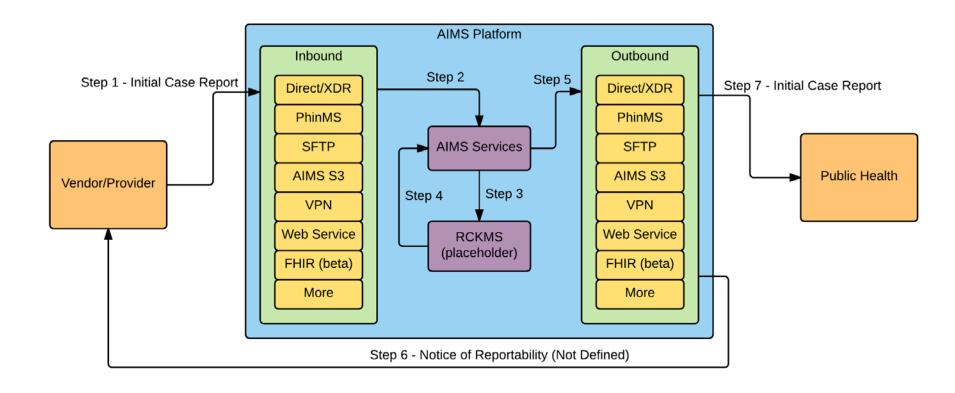








eICR Workflow





Test Cases

- Chlamydia
- Gonorrhea
- Pertussis
- Salmonellosis
- Zika*

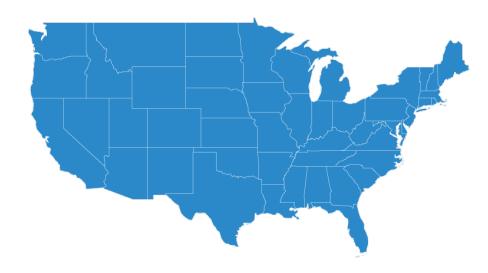




Working with:

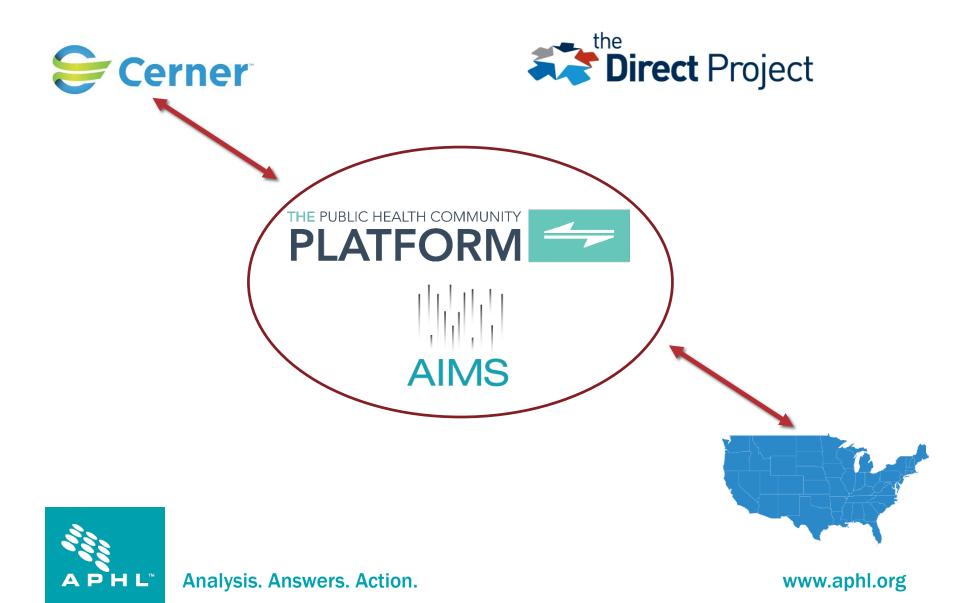
- 1. Utah
- 2. Illinois
- 3. Washington
- 4. Michigan
- 5. Idaho
- 6. Tennessee
- 7. Southern Nevada
- 8. Virginia
- 9. Houston







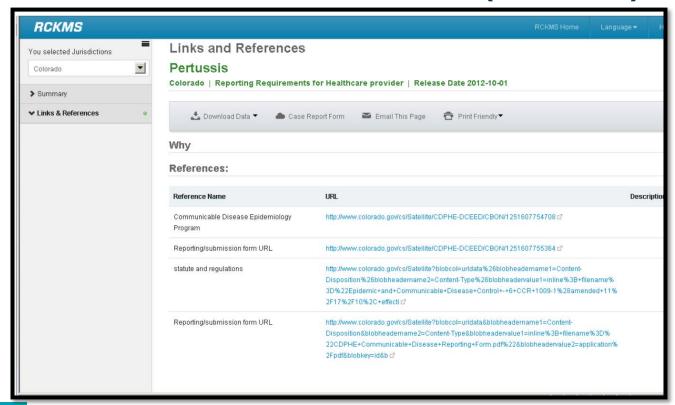
Working with: Cerner



Working with:



REPORTABLE CONDITION KNOWLEDGE MANAGEMENT SYSTEM (RCKMS)





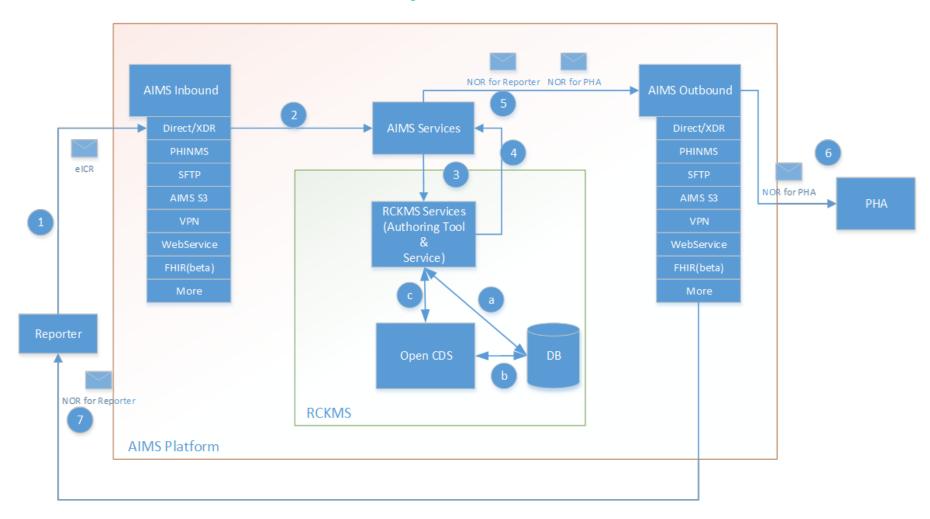
Working with:

eHealth Exchange





eICR Workflow w/ RCKMS



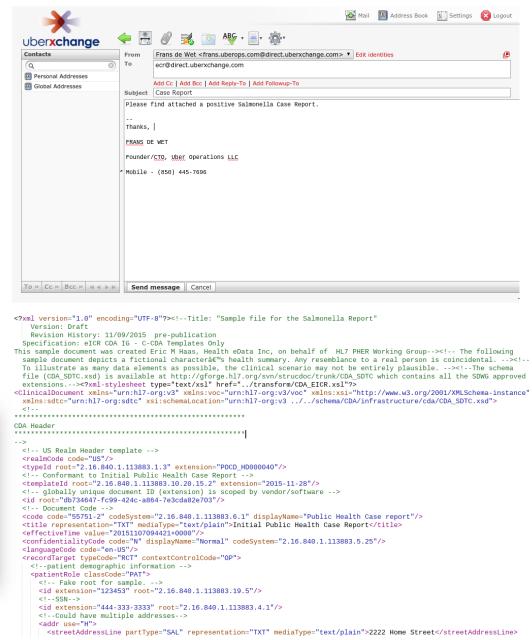


Step 1 - Send

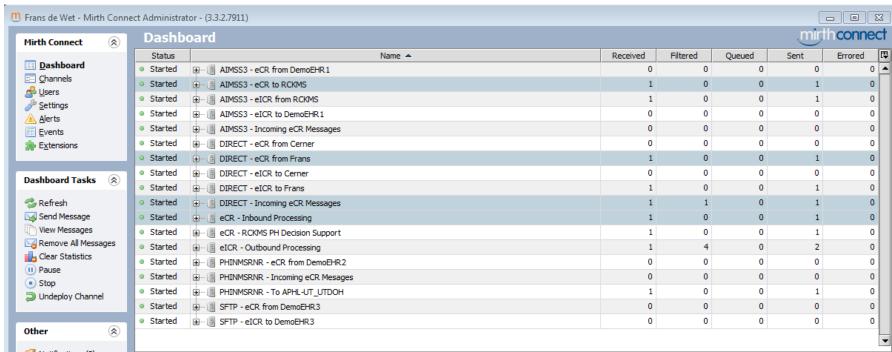
- Example Direct
 Protocol
- Compose new message
- Attach elCR
- Send to ecr@...







Step 2 - Receive by AIMS Services



- Receive from ecr@... Mailbox monitor
- Process with sender specific transformation rules
- Route to RCKMS (placeholder)



Step 3/4 - RCKMS

Status	Name -	Received	Filtered	Queued	Sent
 Started 		0	0	0	0
Started		1	0	0	1
⇒ Started	AIMSS3 - eICR from ROXMS	1	0	0	1
 Started 	⊕	0	0	0	0
 Started 	⊕ AIMSS3 - Incoming eCR Messages	0	0	0	0
 Started 	■ ③ DIRECT - eCR from Cerner	0	0	0	0
 Started 	⊕ -	1	0	0	1
Started	⊕ - ③ DIRECT - eICR to Cerner	0	0	0	0
 Started 	⊕ . □ DIRECT - eICR to Frans	1	0	0	1
 Started 	⊕ -	1	1	0	1
 Started 	⊕ - ∭ eCR - Inbound Processing	1	0	0	1
Started	⊕ ∭ eCR - RCKMS PH Decision Support	1	0	0	1

- Placeholder Very Simple Decision Support
- Routes to Jurisdictions based on patient state
- Sends positive results based on problem or test and/or result codes (Eric Haas):

/ClinicalDocument/component/structuredBody/component/section/entry/act/entryRelationship/observation/value/@code
/ClinicalDocument/component/structuredBody/component/section/entry/encounter/entryRelationship/act/entryRelationship/observation/value/@code
/ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/code/@code
/ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value/@code

- RCKMS Placeholder sends:
 - Notice of Reportability to Sender (always with yes/no)
 - eICR to appropriate Jurisdiction



Step 5,6 and 7 - Route/Deliver

Name 📤	Received	Filtered	Queued	Sent
⊕ ···	0	0	0	0
⊞ ···	1	0	0	1
⊕	1	0	0	1
⊞ ···	0	0	0	0
⊞ ···	0	0	0	0
⊕ □ □ DIRECT - eCR from Cerner	0	0	0	0
⊕ □ □ DIRECT - eCR from Frans	1	0	0	1
⊕ □ DIRECT - eICR to Cerner	0	0	0	0
⊕ □ DIRECT - eICR to Frans	1	0	0	1
⊕ DIRECT - Incoming eCR Messages	1	1	0	1
eCR - Inbound Processing	1	0	0	1
eCR - RCKMS PH Decision Support	1	0	0	1
⊕ ··· (■ eICR - Outbound Processing	1	4	0	2
⊕ → ■ PHINMSRNR - eCR from DemoEHR2	0	0	0	0
HINMSRNR - Incoming eCR Mesages	0	0	0	0
⊕ ··· (PHINMSRNR - To APHL-UT_UTDOH	1	0	0	1

- Receive from RCKMS
- Route Notice of Reportability to Original Sender
- Route elCR to Jurisdiction



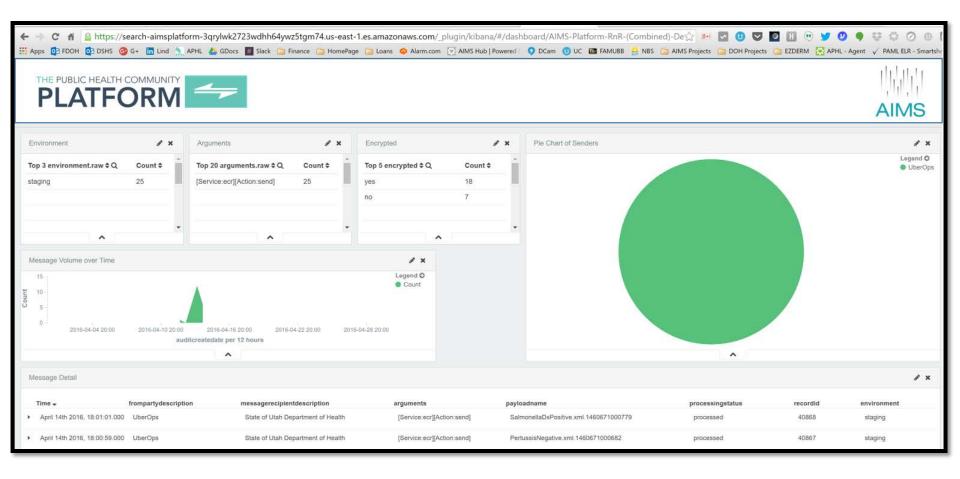
Negative Results

Name 🔺	Received	Filtered	Queued	Sent
⊕	0	0	0	0
⊞ AIMSS3 - eCR to RCKMS	1	0	0	1
⊞ AIMSS3 - eICR from RCKMS	1	0	0	1
⊞ AIMSS3 - eICR to DemoEHR1	0	0	0	0
🖫 ··· 📳 AIMSS3 - Incoming eCR Messages	0	0	0	0
DIRECT - eCR from Cerner	0	0	0	0
DIRECT - eCR from Frans	1	0	0	1
⊞ DIRECT - eICR to Cerner	0	0	0	0
⊕ □ DIRECT - eICR to Frans	1	0	0	1
⊞ DIRECT - Incoming eCR Messages	1	1	0	1
⊕ ··· 📳 eCR - Inbound Processing		0	0	1
⊕ ··· 📳 eCR - RCKMS PH Decision Support		0	0	1
⊕ ··· 📳 eICR - Outbound Processing	1	5	0	1
⊕		0	0	0
⊕ → PHINMSRNR - Incoming eCR Mesages		0	0	0
PHINMSRNR - To APHL-UT_UTDOH	0	0	0	0

- Negative Results do not generate an elCR to the jurisdiction
- Do generate a Notice of Reportability (Negative)



Working with: Utah





Working with: Utah

•						
jects ▶ eICR to Utah via AIMS ▶ eICR-XML						
▼ Burn New folder						
Name Date modified Type Size						
ChlamydiaTestPositive.xml	4/14/2016 3:20 PM	XML File	30 KB			
CT-GC-TestPositive.xml	4/14/2016 3:20 PM	XML File	28 KB			
Pertussis_Example-old.xml	4/14/2016 3:20 PM	XML File	29 KB			
PertussisNegative.xml	4/14/2016 3:20 PM	XML File	32 KB			
PertussisPositive.xml	4/14/2016 3:20 PM	XML File	32 KB			
SalmonellaDxPositive.xml	4/14/2016 3:20 PM	XML File	27 KB			

recordId	messageId	payloadName	p paylo: l	o service	action	argur	fromPartyId	messageRecipient	errorCode	errorMessage
11	FOLDERPOLLING-8b4baf0ea5d6e469a031960f	Pertussis_Example-old.xml.1460645891995	BL	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
12	FOLDERPOLLING-dad978e1875f011c138c8838	PertussisPositive.xml.1460645892073	BLWOLL	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
13	FOLDERPOLLING-b9028381e982309b26eebdd2	CT-GC-TestPositive.xml.1460645892104	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
14	FOLDERPOLLING-18dddbb12c71e5969468f026	ChlamydiaTestPositive.xml.1460645892156	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
15	FOLDERPOLLING-50c4a060ecc56406670b817a	PertussisNegative.xml.1460645892188	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
16	FOLDERPOLLING-cb9f769feb5e3579cda074c58	SalmonellaDxPositive.xml.1460645892220	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
17	FOLDERPOLLING-8b4baf0ea5d6e469a031960f	Pertussis_Example-old.xml.1460671000245	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
18	FOLDERPOLLING-dad978e1875f011c138c8838	PertussisPositive.xml.1460671000341	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
19	FOLDERPOLLING-b9028381e982309b26eebdd2	CT-GC-TestPositive.xml.1460671000585	BT HOTT	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
20	FOLDERPOLLING-18dddbb12c71e5969468f026	ChlamydiaTestPositive.xml.1460671000633	BT NOTE	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
21	FOLDERPOLLING-50c4a060ecc56406670b817a	PertussisNegative.xml.1460671000682	BT HOFF	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL
22	FOLDERPOLLING-cb9f769feb5e3579cda074c58	SalmonellaDxPositive.xml.1460671000779	BL	Router	routeNotReadPoll	[S	2.16.840.1.114222.4.3.2.2.3.719.52	APHL-UT_UTDOH	success	NULL



Contact Information

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Questions?

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Email
<u>ehrmeaningfuluse@cdc.gov</u>
to request participation

